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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,303	11/27/2001	Robert C. Beck	2446	1374

7590 10/06/2005

Beck & Tysver, P.L.L.C.  
2900 Thomas Avenue S., Suite 100  
Minneapolis, MN 55416

EXAMINER
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DESANTO, MATTHEW F

ART UNIT	PAPER NUMBER
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3763

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/995,303

Applicant(s)

BECK, ROBERT C.

Examiner

Matthew F. DeSanto

Art Unit

3763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-9, 18-24 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-9, 18-24 and 27-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Compendium paper

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 7-9, 18-24, 27- 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Nash et al. (USPN 6,524,323).

Nash et al. discloses inserting and advancing a sheath having a discharge lumen to a location in the vessel said delivery sheath discharge lumen coupled to a collection vessel, inserting and advancing an interventional device to a treatment location, said interventional device of type having; a therapy balloon for delivering treatment, and a gap for introducing a primary fluid flow in said vessel, said gap located distal of said therapy balloon; injecting fluid out of said gap to promote retrograde flow into said discharge lumen. (Figures 10, 11, 16, 17; Column 26, line 52 – Column 29, line 40 and entire reference)

As to claim 18, wherein said injection is carried out while moving said interventional device in said vessel with respect to said delivery sheath.

As to claim 9, wherein said fluid is injection at a first injection pressure above the blood pressure in the vessel and the injection fluid drops to a second exhaust pressure in said delivery catheter where said exhaust pressure is above said blood pressure, establishing a pressure gradient in said discharge lumen and promoting flow from said gap to said discharge lumen.

As to claim 27, wherein said primary fluid is supplied by a supply syringe chamber and said discharge lumen is coupled to syringe vacuum chamber, and said supply syringe and vacuum syringe are operated together to couple fluid supply with discharge lumen collection.

3. Claims 7-9, 18-24, and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischell et al. (USPN 5100425).

Fischell et al. discloses inserting and advancing a sheath having a discharge lumen to a location in the vessel said delivery sheath discharge lumen coupled to a collection vessel, inserting and advancing an interventional device to a treatment location, said interventional device of type having; a therapy balloon for delivering treatment, and a gap for introducing a primary fluid flow in said vessel, said gap located distal of said therapy balloon; injecting fluid out of said gap to promote retrograde flow into said discharge lumen.

Fischell et al. also discloses an infusion means and a discharge means.  
(Column 5, line 62- Column 6, line 15)

***Response to Arguments***

4. Applicant's arguments and amendments filed 2/28/05 have been fully considered and are persuasive with regards to Levin et al. and Zadno-Azizi et al., but fails to be persuasive with regards to Fishell et al. and Nash et al..

5. The applicant argues the "wall attachment" achieves a "Coanda effect" and this is the distinguishing feature from the prior art.

6. The examiner has read through the claims and does not see where the limitations of a wall attachment are in the independent or dependent claims. The only language that is similar to the described language in the remarks section is that the fluid will be projected in an initial direction adjacent a wall of said elongated body, which is true in all catheters. The fluid would have to be projected in a direction adjacent a wall because the fluid would have to exit the catheter in a direction adjacent a wall.

Therefore the applicant is arguing the wall attachment, but there is no language drawn to the wall attachment.

7. With regards to the Coanda effect, the examiner draws the attention of the applicant to <http://jnaudin.free.fr/html/coanda.htm>, which is the website where the examiner determined the definition of the Coanda effect. It seems that any solid surface (with a slight curve) will cause a Coanda effect when a fluid is flowing therethrough. Therefore, the examiner still maintains his rejections of Nash et al. (see figure 3,10, 11) and Fischell et al. (see figure 6) because both references will inherently have a Coanda effect when a stream of fluid is sent through the lumen of the catheters as shown in the figures above.

8. The examiner suggestions adding limitations of the wall attachment or the specific structure that is causing the Coanda effect, since this is the main argument given by the applicant, therefore adding those limitations show expedite prosecution.

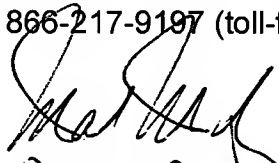
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew F. DeSanto whose telephone number is 571-272-4957. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick LUCCHESI can be reached on (571) 272-4977. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew DeSanto  
Art Unit 3763  
September 30, 2005

  
Primary Patent Ex.



# The Coanda Effect

By Jean-Louis Naudin

created on September 26th, 1999 - JLN Labs - Last update September 27th, 1999

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*The Coanda Effect has been discovered in 1930 by the Romanian aerodynamicist Henri-Marie Coanda (1885-1972). He has observed that a stream of air (or a other fluid) emerging from a nozzle tends to follow a nearby curved surface, if the curvature of the surface or angle the surface makes with the stream is not too sharp.*

If a stream of water is flowing along a solid surface which is curved slightly from the stream, the water will tend to follow the surface.

Now, a very simple demonstration :

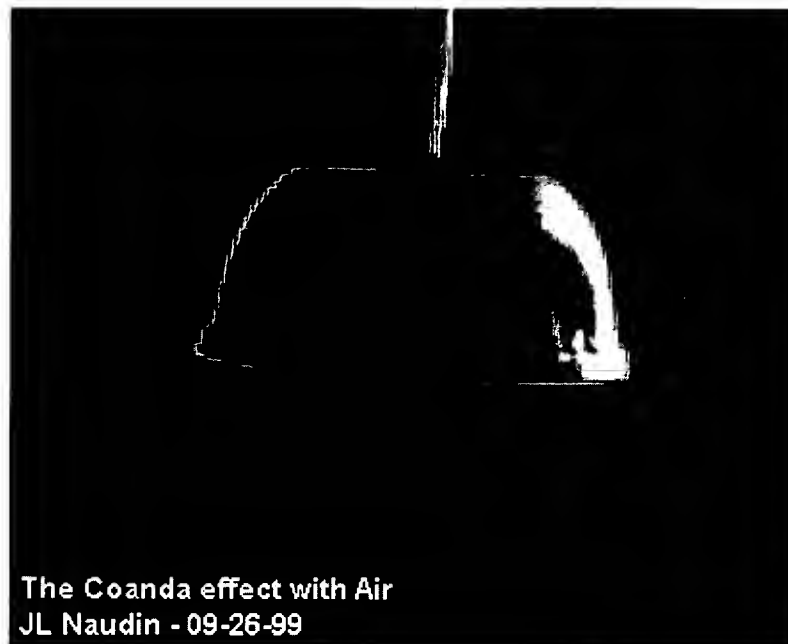
- If you approach gently a curved shaped surface (like the shape of the primary hull of the Repulsin) under a stream of water (see below) :



- The water follows the surface of the curved shape, this is the Coanda Effect (see below) :

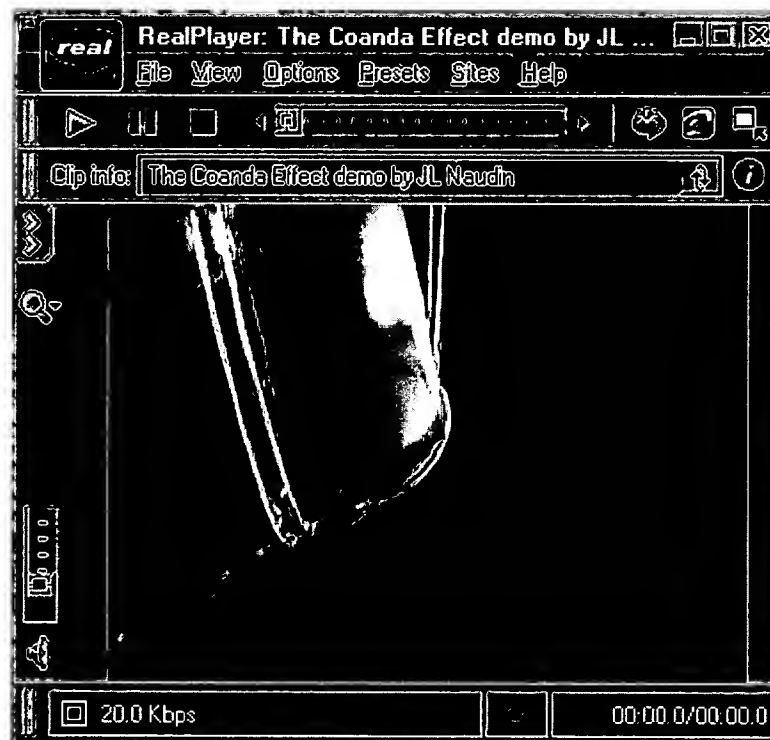


The Coanda Effect works with any of our usual fluids, such as air at usual temperature, pressures and speeds.



See also : [THE COANDA FLYING SAUCER TESTS](#)

You may see also the video of the Coanda Effect in action with a water stream :



RealVideo of the [Coanda Effect in action](#) (48kb)



( if you don't have the RealPlayer 5.0, you may download it freely at :  
<http://www.real.com/products/player/> )

See also ; THE COANDA FLYING SAUCER TESTS ( Repulsin type A )

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